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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/804,660

03/19/2004

Hubertus Notohamiprodjo

MP0403

8031

44990 7590 01/17/2007

KENYON & KENYON LLP
333 W. SAN CARLOS STREET
SUITE 600
SAN JOSE, CA 95110-2731

EXAMINER

BERHANE, ADOLF D

ART UNIT

PAPER NUMBER

2838

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/804,660	NOTOHAMIPRODJO ET AL.	
	Examiner	Art Unit	
	Adolf Berhane	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lev et al. (6,043,633) in view of Nishida et al. (6,831,449).

Lev et al. disclose the claimed invention except for changing modes of operation among continuous, critical and discontinuous mode within one operation cycle. Nishida et al. teach the use of operating between the two modes within one operation cycle in Figs. 1-11. Lev et al. disclose a power factor correction method and apparatus in Figs. 14 and 15. Boost converter includes input voltage (V_{in}), boost inductor (10), boost switch (200), diode (12), driver (200) whose input comes from the power factor correction pulse width modulator (100) via a control line (214), filter capacitor (202 and 206), zero current detector includes capacitor (20), diode (22), and diode (24), and zero current discriminator (130). It would have been obvious to one having ordinary skill in the art at the time of the invention to provide an operation mode between two modes within one operational cycle as taught by Nishida et al. in Lev et al. power factor correction apparatus so that the input current is always proportional to the waveform of the input voltage and thereby to keep the power factor near unity.

3. Claims 45-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seong (5,757,635) in view of Nishida (6,831,449).

Seong disclose the claimed invention except for changing modes of operation among continuous, critical and discontinuous mode within one operation cycle. Nishida et al. teach the use of operating between the two modes within one operation cycle in Figs. 1-11. Seong discloses a power factor correction circuit and circuit therefor having sense-FET and boost converter control circuit in Fig. 3. Boost converter (100) includes input voltage (V_i), boost inductor (L_f), boost switch (110), diode (D2), driver (800) whose input comes from the power factor correction pulse width modulator (100) via a control line (214), filter capacitor (202 and 206), current detector (600), and controller (500). It would have been obvious to one having ordinary skill in the art at the time of the invention to provide an operation mode between two modes within one operational cycle as taught by Nishida et al. in Seong's power factor correction circuit so that the input current is always proportional to the waveform of the input voltage and thereby to keep the power factor near unity.

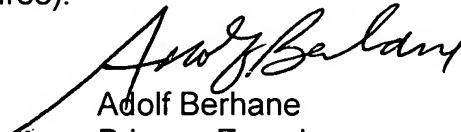
Response to Arguments

4. Applicant's arguments with respect to claims 1-66 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adolf Berhane whose telephone number is 571-272-2077. The examiner can normally be reached on Monday- Friday 8 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Adolf Berhane
Primary Examiner
Art Unit 2838